

Title (en)  
PROCESSES FOR PRODUCING SILICON CARBIDE PARTICLES AND SINTER

Publication  
**EP 0199482 A3 19881207 (EN)**

Application  
**EP 86302511 A 19860404**

Priority  
• JP 7010185 A 19850404  
• JP 14840085 A 19850708  
• JP 18309885 A 19850822

Abstract (en)  
[origin: EP0199482A2] Silicon carbide particles are produced by reacting a gaseous silicon compound or granular silicon with a carbon compound at a high temperature. In the reaction, the amount of free carbon content in the resultant silicon carbide particles can be controlled by monitoring the amount of unsaturated hydrocarbon such as acetylene, as a by-product. Moreover, silicon carbide particles can contain boron dispersed uniformly in the particles by a two step process comprising first reacting a silicon source and a boron source without a carbon source in a first reaction zone, to form boron-containing silicon particles, and second, reacting the resultant particles with a carbon source in a second reaction zone. Further, the above-mentioned monitoring of an unsaturated hydrocarbon by-product allows the obtaining of silicon carbide particles containing no free carbon, and the silicon carbide particles containing boron in the particles but no free carbon may be sintered without the addition of free carbon, to give a dense sinter.

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IPC 8 full level  
**C01B 31/36** (2006.01); **C04B 35/565** (2006.01); **C04B 35/575** (2006.01)

CPC (source: EP US)  
**C01B 32/956** (2017.07 - EP US); **C01B 32/963** (2017.07 - EP US); **C04B 35/565** (2013.01 - EP US); **C04B 35/575** (2013.01 - EP US); **C01P 2006/10** (2013.01 - EP US); **C01P 2006/80** (2013.01 - EP US); **C01P 2006/90** (2013.01 - EP US)

Citation (search report)  
• [Y] US 4295890 A 19811020 - STROKE FREDERICK G  
• [Y] US 3761576 A 19730925 - GROENING F  
• [Y] GB 2054540 A 19810218 - NIPPON CRUCIBLE CO  
• [Y] GB 2016524 A 19790926 - IBIGAWA ELECTRIC IND CO LTD  
• [A] CHEMICAL ABSTRACTS, Vol. 95, No. 12, September 21, 1981, page 120, Ref. No. 99988z; Columbus, Ohio, US; & JP-A-56 032 316 (NIPPON TELEGRAPH AND TELEPHONE PUBLIC CORP.) 01-04-1981.  
• [A] CHEMICAL ABSTRACTS, Vol. 95, No. 20, November 16, 1981, page 131, Ref. No. 171550y; Columbus, Ohio, US; & JP-A-56 058 537 (HITACHI LTD) 21-05-1981.  
• [AD] CHEMICAL ABSTRACTS, Vol. 103, No. 14, October 7, 1985, page 128, Ref. No. 107084c; Columbus, Ohio, US; & JP-A-60 077 114 (NIPPON STEEL CHEMICAL CO. LTD) 01-05-1985 (Cat. P,A).

Cited by  
EP0282291A3

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**EP 0199482 A2 19861029**; **EP 0199482 A3 19881207**; **EP 0199482 B1 19930113**; DE 3650539 D1 19960808; DE 3650539 T2 19961031; DE 3687472 D1 19930225; DE 3687472 T2 19930701; EP 0434667 A2 19910626; EP 0434667 A3 19911016; EP 0434667 B1 19960703; US 4832929 A 19890523; US 4847060 A 19890711

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**EP 86302511 A 19860404**; DE 3650539 T 19860404; DE 3687472 T 19860404; EP 91101778 A 19860404; US 668887 A 19870123; US 727187 A 19870127